Attorney Docket No. 06618-408001
Appl. No. 09/489,515
Amdt. dated August 29, 2003
Reply to Office Action dated May 30, 2003

REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

Claims 6, 8, 9, 11, 12, 14, 15, 17-22, 25 and 26 stand rejected under 35 USC 102 as allegedly being anticipated by Cabasso. This contention is respectfully traversed.

The rejection alleges that Cabasso teaches a membrane plasticizer in column 7, line 64, which recites using DMA as a solvent to dissolve the polyvinylidine fluoride. However, it is respectfully suggested that Cabasso teaches using DMA as part of the carbon backing paper, not as part of the catalyst ink as claimed. In fact, the materials which are mixed in Cabasso do not include a catalytic material, a plasticizer, and polyvinylidine, as required by the claims.

Cabasso describes a material to be used as the gas diffusion electrode for the fuel cell. Polyvinylidine is mixed with carbon particles to form the electron matrix material, see generally, column 6, lines 8-21. The polyvinylidine mixed with carbon particles forms the matrix builder for the electrodes. After this is formed, a catalyst layer is used to paint a layer of ink onto the carbon black. This is described in column 6,

lines 47-58. However, the process of combining carbon, polyvinylidine, and organic solvent is used to form the porous membrane, not the catalyst ink, see column 4, lines 19-24.

Columns 7 and 8 describe how the polyvinylidine is blended with the carbon particles in the organic solvent to form the binder. The particulate carbon is described as the carbon black. The polyvinylidine and carbon are diluted in a solvent, and one of the possible solvents is admittedly DMA. However, as completely evident from the specification, and especially evident from column 4, lines 19-25, this process is being carried out to form the gas diffusion electrode with the controlled porosity; not to form the catalyst ink. Thus, the DMA solvent material is being used to form the matrix material NOT THE INK. There is no teaching or suggestion of adding DMA to the components that include a catalytic material, and membrane plasticizers. Rather, column 7, line 64 through column 8, line 14 describe how to form the binder; that is the material with the carbon that is used as a backing material.

There is no teaching or suggestion of adding a membrane plasticizer to the catalyst ink, nor is there any teaching or suggestion that any advantages would be obtained from adding such a membrane plasticizer to a catalyst ink. Therefore, each

of the claims which define adding the membrane plasticizers, and specifically claims 6, 11, 19 and 26, should be allowable for these reasons. Nothing in the cited prior art teaches any advantages from adding a plasticizer to the catalyst ink.

In fact, as described in the specification, an advantage is obtained that the plasticizer may enhance mixing between the ink and the other materials. It is respectfully suggested that Cabasso teaches only adding the plasticizer to the backing material, not to the ink. Therefore, it is respectfully suggested that each of the claims should be allowable for these reasons as well as on their own merits.

The dependent claims should be allowable for similar reasons to those discussed above with respect to the respected independent claims. Specifically, there is no teaching or suggestion in the prior art of adding a membrane plasticizer to the catalyst ink.

In view of the above amendments and remarks, therefore, all the claim should be in condition for allowance. A formal notice to that effect is respectfully solicited.

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Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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